

習題繳交方式：

- 上傳 `cpp` 程式檔案以及執行畫面結果的截圖檔案
- 作業繳交格式：HW1_學號.`cpp` (ex. HW1_H34126168.`cpp` 、 H34126168.png)

HW #1

Problem: Write a C++ program that will test the following three functions described below that use arrays and called by reference.

1. Find and Modify Minimum Value

Develop a function named `findAndInvertMinimum` that locates the minimum value in an integer array and multiplies it by -1 (inverting its sign). This function should accept an array of integers and the array's size as parameters. By directly modifying an element within the array, this task emphasizes direct array manipulation through function calls.

Function Prototype:

```
void findAndInvertMinimum(int arr[], int size);
```

This function will directly alter the minimum element in the array, demonstrating the call by reference principle with arrays.

2. Negate Elements

Implement a function called `negateElements` that takes an array of integers and its size, then replaces every element in the array with its negative value. This demonstrates direct array modification within a function, a key aspect of call by reference in C++.

Function Prototype:

```
void negateElements(int arr[], int size);
```

3. Merge and Double Second Array Elements Before Merging

Create a function that merges elements from a second array into the first one, provided there is enough space in the first array. Additionally, before merging, each element of the second array should be multiplied by 2. This task highlights modifying array elements by reference before combining

them.

Function Prototype:

```
void mergeAndDoubleSecondArrayElements(int arr1[], int  
arr1Size, const int arr2[], int arr2Size, int  
combinedCapacity);
```

Note: The first array (`arr1`) has a predetermined capacity (`combinedCapacity`), which is large enough to accommodate elements from both `arr1` and `arr2`. Ensure that your function logic checks for sufficient capacity in `arr1` to avoid overwriting beyond its allocated space.